

Supply chain simplification in the logistics industry—the HP way

Mastering information to simplify supply chain communications, transactions, decision making, and infrastructure

Business white paper

SIMPLIFY

your supply chain to
accelerate growth



Past growth bred complexity. Future growth demands simplicity.

Decades of revenue and shipping volume growth, globalization, and consolidation have shaped much of today's logistics market. Their primary effect has been to complicate supply chains—the heart of every logistics business.

As product companies and shippers extended their operations across markets and continents, logistics providers eagerly followed. As a result, logistics providers have grown in size and reach through acquisitions, service portfolio expansions, broadened transportation and warehousing service networks, and larger supplier bases.

Growth in the number of enterprises involved in global logistics and the multitude of touch points has caused supply chains to become more complex and less agile:

- The increase in trading partners, shippers, and carriers has often complicated integration and communications.
- Numerous mergers and acquisitions have resulted in a myriad of business processes and supporting infrastructures.
- Expanding operations into new countries presents specific challenges, such as new regulations, customs laws, governing bodies, languages, packaging specifications, shipper options, and fuel choices.

Many logistics supply chains are now fragmented and sluggish. Without consistent visibility to transactions and inventory, supply chain constituents struggle to coordinate and respond to demand and supply changes. Furthermore, supply chains are supported by an old and geographically scattered hodgepodge of technology and data sets.

And the industry doesn't have time to catch its breath. Global growth is expected to be strong given the surge in emerging market buying power and online

shopping. Other challenges include new and nimble competitors, more demanding customers, and the imposition of even more stringent business and safety regulations.

To succeed in this challenging yet opportunity-filled environment, logistics companies need to become more responsive. They must find ways to reduce costs, improve operational efficiencies, and respond more quickly to changing market conditions. In short, since the supply chain is the logistics business, companies must streamline their supply chains by simplifying:

- Communications between constituents
- Transaction processing
- Decision making
- Technology infrastructures

HP believes that simplifying logistics industry supply chains centers on a single premise: **the information surrounding in-transit materials and financial management is as valuable as the actual physical goods**. Thus, the better you synthesize and utilize the information embedded in your supply chain operations, the more you can reduce complexity and prosper. To this end, we offer a four-pronged approach for addressing supply chain complexity:

1. A clear understanding of the challenges, and a vision of how to break through the complexity
2. The broadest portfolio of services and technology in the industry for creating an integrated and agile supporting infrastructure
3. An industry architecture that maps this portfolio to the core business technology layers that are essential for a high-performing supply chain
4. Service methodologies for assessing and refining the business and technology that propels supply chain performance

While this paper addresses all four components of HP's approach, it primarily evaluates the value and breadth of our solution portfolio in the context of simplifying logistics industry supply chains.





Our vision: Capitalize on information to break through complexity

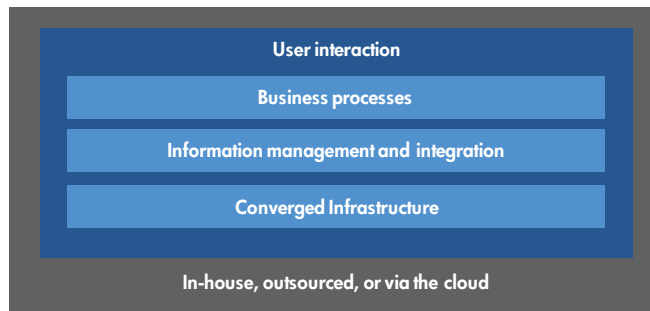
Supply chain complexity stifles information sharing, productivity, and a company's ability to manage growth. To simplify workflows and overcome the barriers caused by fragmented, inefficient, and unreliable legacy processes and systems, logistics companies must:

- Capture and process the huge quantities of near-real-time information needed to plan and execute the variety of services logistics companies offer today, and will offer tomorrow.
- Support standardized procure-to-pay and order-to-cash processes, be flexible enough to execute customer-specific work flows, and smoothly interface with "edge" devices.
- Seamlessly integrate infrastructure and workflows with B2B gateways that support real-time interfaces with shippers and carriers, and command and control centers that provide visibility to operational and financial exceptions.
- Establish end-to-end visibility and traceability of in-transit inventory and receive early notification of supply chain changes in demand and exceptions originating from anywhere in the world.
- Capture events, monitor progress, and communicate critical information instantly using real-time event management, so disruptions can be addressed promptly.

Achieving this simplified and agile "future state" requires careful attention to information management and a fundamental, technology-based transformation. Logistics companies should explore rationalizing, modernizing, and (in many cases) consolidating the infrastructure, applications, manpower, and processes needed to read, manage, and share data across numerous supply chain touch points.

HP business technology architecture for the logistics industry

Providing the critical information and integration for supply chain simplification



Our framework for identifying supply chain simplification opportunities

We have created a business-technology architecture that helps identify specific supply chain simplification opportunities. The architecture has five components:

- **User interaction** refers to the tools used by supply chain professionals and trading partners to improve information sharing. These tools enable multiple constituents to simplify communications, thereby improving productivity.
- **Business processes** refer to the procedures and rules used to initiate, track, and push goods and documents through the various transactions required to ship materials. Business processes are typically embedded into business applications that automate process utilization and integration. Streamlined business processes and applications simplify supply chain transactions.
- **Information management and integration** refers to creating, capturing, analyzing, sharing, archiving, and integrating the data used to drive transactions and user interactions. Precise information management and integration provides the underlying flexibility needed to simplify decision making and improve business responsiveness.

- A **Converged Infrastructure** matches the supply of IT resources with the demand for business applications. By transitioning away from a product-centric approach to a shared-service management model, you can accelerate standardization, reduce operational costs, and significantly simplify the infrastructure that supports the supply chain.
- **In-house, outsourced, or via the cloud** refers to our various delivery models. These models give you a choice regarding how to best allocate resources and manage capital and operating expenses while simplifying your supply chain.

By mapping business needs to technology product and services options, we can identify solutions best suited for each architectural layer, thus helping you simplify supply chain communications, transactions, decision making, and infrastructure.

The user interaction layer: Simplify communications between constituents

Giving your supply chain constituents—employees, suppliers, carriers, and other trading partners—tools to better communicate and coordinate their efforts automatically simplifies supply chain interactions. Timely, accurate, and accessible information can improve overall supply chain productivity and reduce the need for rework caused by miscommunication.

We provide communications and collaboration, mobility, and media and print solutions that improve user interaction and communications across the supply chain. Specifically, we help you:

- **Improve information consistency, security, and collaboration** with powerful records and content management capabilities, enterprise security, and collaboration solutions.
- **Speed information access and decision making** by providing mobile devices and solutions that let supply chain constituents access data from anywhere and immediately respond to real-time routing, inventory, or carrier exceptions.

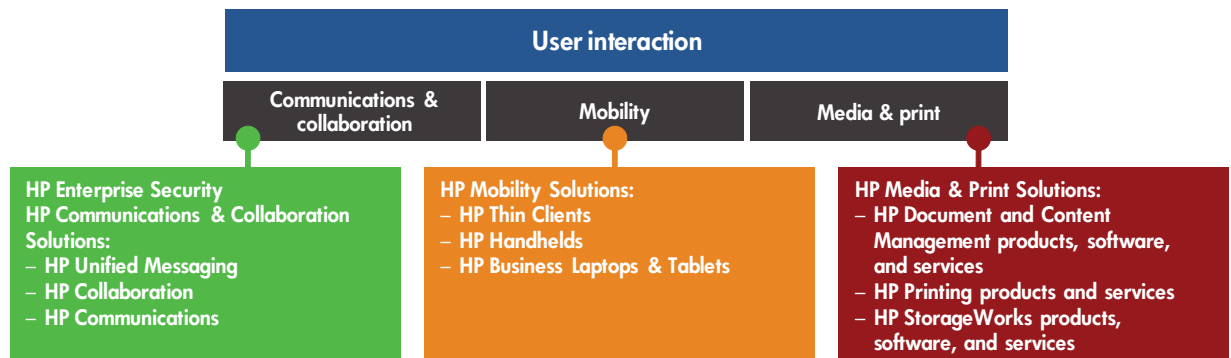
- **Streamline supply chain correspondence and regulatory compliance** by outsourcing document processing.
- **Reduce telephony, audio, conferencing, travel, and printing costs** with solutions such as HP Managed Messaging, HP Halo telepresence and video conferencing solutions, and HP Managed Print services.
- **Focus business and IT resources on more strategic projects** by outsourcing print management, messaging services, and other functions.

The business process layer: Simplify supply chain transactions

While there are multiple renditions of logistics business process maps, hierarchies, and definitions, the core processes supporting the logistics supply chain—and HP’s focus for assisting logistics companies—span customer management, transportation, warehousing, and cross-enterprise processes. These processes generate, track, and monitor the information that drives the supply chain.

- **Customer management processes** range from demand management and generation to post-shipment customer service. Customer management is an excellent example of closed-loop processes that provide significant value across the supply chain. Properly cultivated customer information not only helps manage growth and the needs of a larger customer base, it also feeds numerous other core transportation, warehouse, and cross-enterprise processes.
- **Transportation processes** support activities such as resourcing and planning routes, tracking the movement of goods, and complying with international trade requirements. Logistics and global trade management processes are just two examples of where ‘the information surrounding in-transit materials and financial management is as valuable as the actual physical goods.’ Materials

HP solutions simplify communications between supply chain constituents



Core business processes in the logistics industry supply chain

Business processes			
Customer management	Transportation	Warehouse	Cross-enterprise
Demand creation	Resource management	Inventory management	Human resources
Order management	Load/route planning	Material handling	Finance
Post shipment customer service	Pick-up & delivery	Order management	Legal
	Logistics management	Yard management	
	Global trade management	Picking & packing	
	Yield management	Receiving, put-away, slotting	
	Visibility		

cannot be shipped past a country border until all global trade requirements are met—an information- and document-intensive process. Effective logistics management requires an information-fueled partner network that resides outside the four walls of the logistics company. Without this data nothing moves.

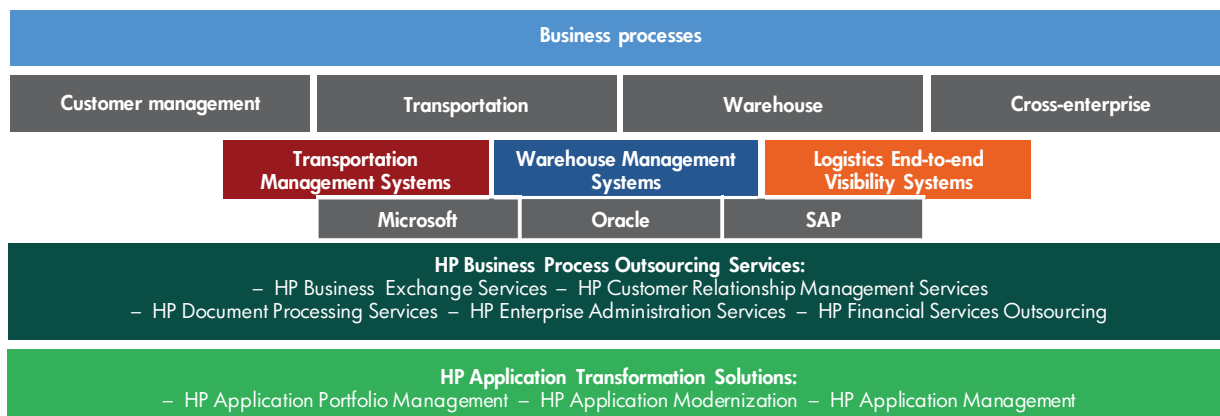
- **Warehouse processes** govern the handling of goods and documents within a warehouse or other static location.
- **Cross-enterprise processes** are the underlying administrative processes that support the entire logistics enterprise, including legal, finance, and human resources.

To help you simplify your supply chain by rationalizing and modernizing business processes, we offer a variety of business process outsourcing services and application transformation solutions. We work closely with partners like Microsoft®, Oracle, SAP, and other niche software providers to implement transportation management systems, warehouse management

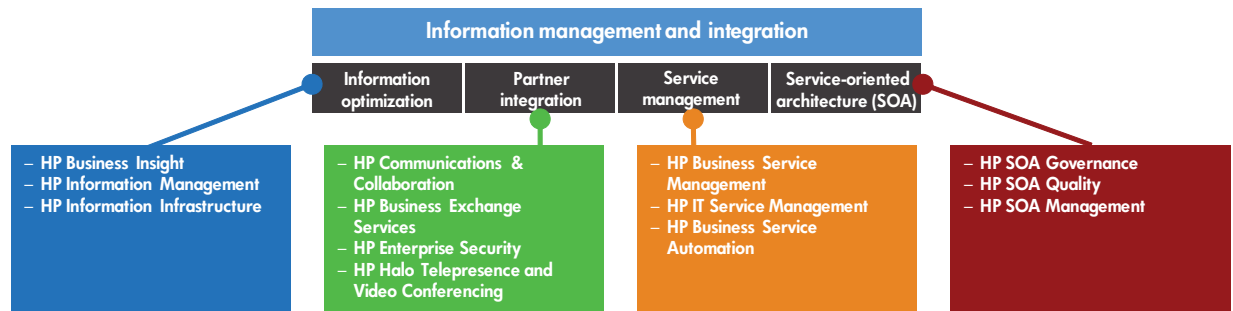
systems, and logistics end-to-end visibility systems. Working at the business process layer, we can help you simplify supply chain transactions in a variety of ways:

- **Streamline transactions** by updating and standardizing business processes and associated applications, either by outsourcing process management to us, or working with us to modernize the applications environment.
- **Accelerate decision making and information sharing** with up-to-date processes and applications that have been implemented, modernized, and managed by our application services team.
- **Free-up resources** and reallocate them to strategic, innovative supply chain initiatives by outsourcing non-core processes, either by outsourcing the business processes or by outsourcing the management of the underlying application environment.

HP business process outsourcing and application transformation solutions simplify supply chain transactions



HP information management and integration solutions simplify decision making across the supply chain



- **Reduce the complexity and costs** of legacy applications and infrastructure with HP Application Transformation solutions. Using these solutions, HP customers have experienced:
 - 60% reductions in applications operating costs
 - A supporting infrastructure with tripled performance at less than half the price

The information management and integration layer: Simplify decision making across the supply chain

Meticulous information management and integration is fundamental to simplifying the logistics supply chain. The user interaction and business process layers rely on information captured, processed, and delivered by the information management and integration layer. Regardless of whether a supply chain constituent is in a transaction-based role or in charge of business analytics, decision making suffers without consistent and accurate information management and integration.

We supply information optimization, partner integration, service management, and service-oriented architecture (SOA) solutions that enable you to improve and simplify decision making across your supply chain. Specifically, we help you:

- **Simplify operational and customer management decision making** and data sharing—with real-time, secure information exchanges among supply chain partners—using HP Business Exchange Services.
- **Increase supply chain decision responsiveness** with improved visibility and dispute resolution via a ‘single version of the truth’ supplied by our master data management solutions, records management capabilities, and data integration services.
- **Improve cross-supply decision consistency**—from shippers to customers—with proactive data generated by our data warehousing platforms, content management solutions, and Web portal development services.

- **Facilitate partner participation in decision making**, reduce costs, and improve scalability using our advanced telepresence and video conferencing solutions, B2B integration expertise, or both.
- **Increase business agility** by reducing IT release and deployment cycle times by up to 50% and supply-chain-impacting IT outages by as much as 30% with our business and IT service management solutions.
- **Improve the timeliness and accuracy of decision making** by migrating legacy applications to modernized business processes and information systems using our SOA services and platform.
- **Speed decision making and flexibility** by standardizing processes such as procure-to-pay and order-to-cash by establishing proper SOA governance and management.

The Converged Infrastructure layer: Simplify the infrastructure that supports the supply chain

Each layer of our business technology architecture for the logistics industry, in one form or another, processes the information surrounding in-transit materials and financial management; the information that is as valuable as the actual goods being shipped. For example, the user interaction layer helps share information; the business process layer captures information and processes transactions; the information and integration layer stores, catalogs, integrates, and provides secure access to the information that feeds transactions, business metrics tracking, and operational and customer analysis.

HP Converged Infrastructure provides an integrated, flexible, and simplified technology foundation that improves the responsiveness and reliability of all business information and processes. The Converged Infrastructure and supporting services match the supply of IT resources with the demand for business applications. Embracing standardization and a services-based model lets you simplify the underlying infrastructure that supports your supply chain by:

- **Removing IT silos and bottlenecks** created by acquisitions and organic growth. HP Adaptive Resource Pools establish virtualized, shared capacity that can be quickly combined, divided, and repurposed to match any application. Fewer silos mean a more integrated supply chain.
- **Delivering new levels of IT simplicity, integration, and automation.** HP Flex Fabric connects thousands of servers to a virtualized, high-performance, low-latency network that consolidates multiple protocols into a single fabric to dramatically reduce network complexity and cost. IT simplicity reduces supply chain complexity.
- **Creating flexible IT resources** that can be quickly allocated in response to changes in demand, supply, or capacity. The HP Infrastructure Operating Environment is a shared-services engine that provisions and adapts application environments to business demand fluctuations. IT flexibility enhances supply chain responsiveness.
- **Reducing costs** by consolidating IT resources, using more effective resources, and saving energy. The HP Data Center Smart Grid creates an intelligent, energy-aware environment across IT and physical facilities to help optimize energy use, reclaim facility capacity, and reduce energy consumption. A more energy-efficient IT generates savings that can be reinvested in supply chain innovations.

Business transformation includes updating existing customer management, transportation, warehouse, and cross-enterprise business processes, or creating new ones. As with any change, organizational alignment and commitment are the keys to success. For a logistics company, the organization includes suppliers, carriers, and other trading partners—not just employees.

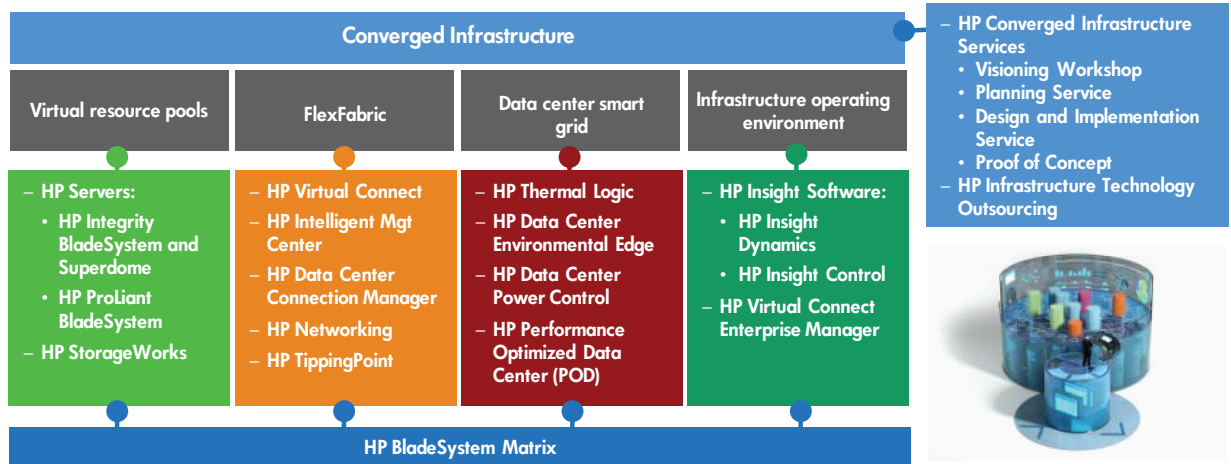
IT transformation should aim to create an agile, service-oriented architecture with enterprise-wide standards. That puts timely and accurate information in the hands of decision makers, facilitates communication and collaboration, and drives people and cost efficiencies. Effective IT transformation typically encompasses four steps:

1. **Create a common data model.** Organizations need a common nomenclature that standardizes the names of customers, suppliers, products, or other entities across all of an organization’s databases.
2. **Rationalize and modernize applications.** Before you can run applications in an agile infrastructure, you need to consolidate and update the applications. A thorough analysis of the applications portfolio—both custom and packaged—can help identify redundancies, unused capacity, and other problem areas. The next step is to renew, replace, or retire applications without disrupting daily operations.
3. **Choose new platforms that align with business priorities.** After defining the future-state applications portfolio, identify the IT and communications platforms needed to support your business. This paper outlines a variety of different business objectives and challenges, and proposes new solutions and services.

HP methodologies: Making supply chains simpler

To transform a fragmented supply chain into a more streamlined and efficient one, you have to scrutinize and then retune or rebuild its business and technology components.

HP Converged Infrastructure simplifies the infrastructure that supports the supply chain



Example: Simplifying the supply chain while growing revenues

The HP logistics cloud platform is just one example from our broad solutions portfolio that helps simplify your supply chain. It provides pay-for-what-you-need, when-you-need-it capabilities. A sampling of these services includes:

- **Comprehensive logistics management** services ranging from freight procurement to order and shipment planning and document creation and auditing.
- **Global trade management services** create digitized and compliant trade and logistics documents for customs and banking activities and share them using a secure, Web-based platform.
- **Customer management services** provide closed-loop processes that start with demand generation, feed into order management, and reconcile with post-shipment service and feedback.
- **Customized services** are tailored to specific target markets that need help managing their internal logistics operations, such as automotive manufacturers, consumer goods companies, electronics manufacturers, or private label retail enterprises.

4. **Build an agile enterprise platform.** Using an SOA or cloud platform [see sidebar], an agile enterprise platform can connect customers, vendors, and partners; collect data from edge-computing devices; and support an integrated IT information and communications infrastructure.

HP offers a variety of methodologies and services to help transform and align your business and technology infrastructure.

Complexity is not an option: How and where to simplify

Supply chain complexity hinders business growth. Logistics companies must transform fragmented, inefficient, and unreliable processes and systems to keep information working across an integrated supply chain.

Fortunately, supply chain simplification is not an all-or-nothing proposition. Projects can range from complete transformations to activities limited to improving communications, transactions, or decision making.

We use our logistics industry business-technology architecture and methodologies to help you determine where, when, and how to simplify. Regardless of your approach, our broad solution portfolio supports a strong vision focused on simplicity, efficiency, and cost savings. We believe that **the information surrounding in-transit materials and financial management is as valuable as the actual physical goods**, and can help you decide how to best approach supply chain simplification to “master the information.”

It's time to simplify your supply chain

We help logistics companies around the world enable fast, reliable, and accurate shipments with our innovative solutions. Why wait to simplify your business?

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